TOWNSENDIA MICROCEPHALA (ASTERACEAE: ASTEREAE): A NEW SPECIES FROM WYOMING

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ABSTRACT

Townsendia microcephala, a new species from Wyoming, is described and illustrated. It appears most closely related to *T. spathulata* Nutt., with its deciduous pappus and tiny heads. It differs in having glabrous or glabrate and epapillate achenes, smaller heads, and longer and narrower and less copiously pubescent leaves. It occurs about 125 km beyond the known range of *T. spathulata.*

While conducting field work in southwest Wyoming, I encountered a *Townsendia* with unusually tiny heads less than 17 mm in diameter including the spreading rays. It also had a deciduous pappus, a characteristic of only two other species of *Townsendia* (Beaman 1957). One of these species, *T. condensata* Parry ex A. Gray, has rather large heads 25–80 mm in diameter. The other, *T. spathulata* Nutt., has small heads 15–40 mm in diameter but most plants have shorter and broader leaves and often oddly colored rays (Table 1). Further study indicated significant differences in achene pubescence and surface texture.

Townsendia microcephala Dorn, sp. nov. (Fig. 1)—TYPE: USA, Wyoming, Sweetwater Co., T13N R112W W½ of W½ of Sect. 22, Cedar Mtn., rocky slope, 8500 ft (2590 m), 19 Jul 1989, *Dorn 5034* (holotype, RM; isotype, NY).

Herba perennis; foliis plerumque oblanceolatis, pubescentibus, 3–18 mm longis, 1–2.5 mm latis; capitulis sessilibus vel prope sessilibus; involucro 6–8 mm longo, 4–8 mm lato, tegulis 3–4 seriatis; radiis 13–17, albis, 5–8 mm longis; pappo deciduo; acheniis oblanceolatis, glabris vel prope glabris, epapillosis.

Rosulate, taprooted perennial herb with much branched caudex; leaves mostly oblanceolate, moderately to densely pubescent with multicellular hairs, 3–18 mm long, 1–2.5 mm wide; heads sessile or nearly so, less than 17 mm in diameter including rays, old ones tending to persist; involucres 6–8 mm long, 4–8 mm wide; phyllaries in 3–4 series, mostly lanceolate, acute, margins scarious and lacerate-ciliate, pubescent on back with multicellular hairs, 4–8 mm long, mostly 1–1.5 mm wide; ray corollas 13–17, white, 5–8 mm long; disk corollas yellow, about 4 mm long; pappus of ray and disk flowers

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TABLE 1. SELECTED CHARACTERISTICS OF *TOWNSENDIA MICROCEPHALA* AND SIMILAR SPECIES.

Species	Leaf length (mm)	Leaf width (mm)	Leaf pubescence	Involucre width (mm)	Ray length (mm)	Ray color	Achenes glabrous-glabrate	Achenes papillate
T. microcephala	3–18	1–2.5	villous	4–8	5–8	white	yes	no
T. spathulata	3–12 (–22)	1.5–5	woolly to villous	(5–)8–16	5–10(–12)	*	no	yes
T. condensata	4–30	1.5–5	woolly to villous	10–40	8–16(–20)	white, pink, lavender	no	yes

* The following colors have been noted: white, pink, lavender, brownish orange, coppery, bronze, yellowish green.

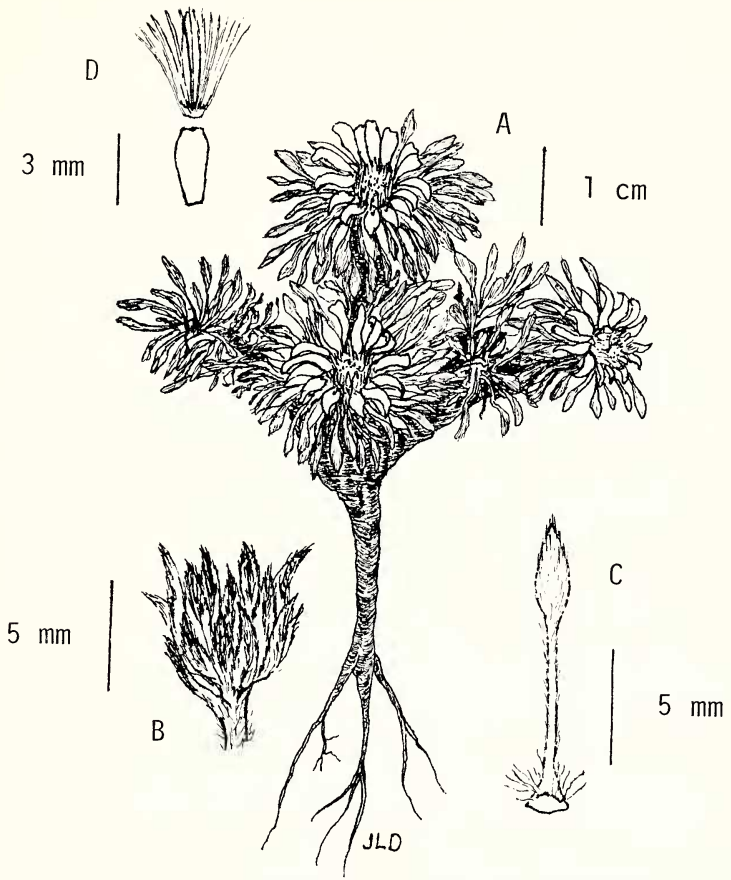

FIG. 1. *Townsendia microcephala.* A. Habit. B. Involucre. C. Leaf. D. Achene and pappus.

similar, of mostly 15–20 barbellate bristles, 3–5 mm long, deciduous; achenes oblanceolate, compressed, glabrous or nearly so, epapillate, 3–4 mm long, about 1 mm wide.

Townsendia microcephala is most similar to *T. spathulata* but the achenes are glabrous or nearly so and not papillate, the heads are smaller, and the leaves are generally longer and narrower and less copiously pubescent (Table 1). *Townsendia spathulata* is usually found on a calcareous substrate; *T. microcephala* grows on the Bishop Conglomerate which is not calcareous. *Townsendia spathulata* occurs to the north and east of *T. microcephala* in Wyoming and Montana. The closest known population of *T. spathulata* is about 125 km ENE of the *T. microcephala* population. The similarities of *T. microcephala* and *T. spathulata* suggest that *T. microcephala* is

derived from *T. spathulata,* although the reverse cannot be ruled out.

Townsendia microcephala will key to *T. spathulata* in Beaman (1957). The collection of much more material since Beaman's monograph has increased our understanding of the variability of *T. spathulata* and *T. condensata* so that his key for separating them is no longer useful. The three species can be separated with the following key.

a. Achenes glabrous or glabrate, epapillate; involucre 4–8 mm wide. ..... *T. microcephala* Dorn
a′. Achenes pubescent, papillate; involucre (5–)8–40 mm wide.
  b. Involucre (5–)8–16 mm wide, 6–10 mm long; stems rarely apparent; leaves mostly copiously pubescent. ..... *T. spathulata* Nutt.
  b′. Involucre of largest heads 17–40 mm wide, 8–18 mm long, or if smaller, then stems usually apparent and leaves becoming glabrate, especially the upper surface.
    c. Involucre of largest heads 17–40 mm wide; stems rarely apparent; heads often solitary. ..... *T. condensata* Parry ex A. Gray var. *condensata*
    c′. Involucre usually 10–17 mm wide, rarely wider; stems often apparent; heads rarely solitary, usually 3–15. ..... *T. condensata* Parry ex A. Gray var. *anomala* (Heiser) Dorn

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